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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Nisson *et al.*

Appl. No. 09/829,066

Filed: April 10, 2001

For: **Method for Isolating and
Recovering Target DNA or RNA
Molecules Having a Desired
Nucleotide Sequence**

Confirmation No.: 1532

Art Unit: 1656

Examiner: *To be assigned*

Atty. Docket: 0942.4800002/RWE/ALS

**Third Preliminary Amendment and
Submission of Substitute Sequence Listing
Under 37 C.F.R. § 1.825(a)**

Commissioner for Patents
Washington, D.C. 20231

Sir:

This Amendment is provided in the following format:

(A) A clean version of each replacement paragraph/section/claim along
with clear instructions for entry;

(B) Starting on a separate page, appropriate remarks and arguments.

37 C.F.R. § 1.111 and MPEP 714; and

(C) Starting on a separate page, a marked-up version entitled: "Version
with markings to show changes made."

It is not believed that extensions of time or fees for net addition of claims are required beyond those that may otherwise be provided for in documents accompanying this paper. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required therefor (including fees for net addition of claims) are hereby authorized to be charged to our Deposit Account No. 19-0036.

Amendments

In the Specification:

Please substitute the following paragraphs/sections for the pending paragraphs/sections.

Please replace the paragraph beginning on page 17, line 32 and ending on page 18, line 12 with the following paragraph:

In one embodiment, the probe (and/or primer) may contain nucleotide analogues that are capable of hybridizing to more than one species of the four naturally occurring deoxynucleotides (dC, dG, dT, and dA). 2'-deoxyInosine or 2'-deoxyNebularine which exhibit low, but unequal, hydrogen bonding to all four bases may be employed for such purpose. Alternatively, a "universal nucleotide" may be employed. In this strategy, the base analog does not hybridize significantly to any of the four bases. 3-Nitropyrrole 2'-deoxynucleoside, and 5-nitro-indole are examples of such universal bases (Nichols, R. *et al.*, *Nature* 369:492-493) (1994); Loakes, D. *et al.*, *Nucl. Acids Res.* 22:4039-4043 (1994)). Nucleotides having bases capable of hybridizing to multiple species of nucleotide, as well as "universal nucleoside" may be obtained from Glen Research (Lin *et al.*, *Nucleic Acids Res.* 17:10373-10383 (1989); and Lin *et al.*, *Nucleic Acids Res.* 20:5149-5152 (1992)). Examples of such universal nucleotide include dP and dK, obtainable from Glen Research. Throughout this specification, dP is a deoxyribonucleotide wherein the nucleotide base P represents 6H,8H-3,4-dihydropyrimido[4,5-c][1,2]oxazin-7-one. Throughout this specification, dK is a deoxyribonucleotide wherein the nucleotide base K represents 2-amino-6-

methoxyaminopurine. When used in a sequence, dP is interchangeable with P, and dK is interchangeable with K.

In compliance with 37 C.F.R. § 1.825(a), Applicants submit substitute sheets to amend the paper copy of the Sequence Listing. Please cancel the existing Sequence Listing for the above-identified application, replace it with the substitute Sequence Listing appended hereto, and insert the same at the end of the application.

Remarks

Pursuant to the Notice of Incomplete Reply (Nonprovisional) mailed October 5, 2001, Applicants hereby submit a Substitute Sequence Listing to correct errors in the previously filed submission. Applicants' Agent hereby states that the changes made in the Substitute Sequence Listing do not include new matter.

Upon entry of the foregoing amendment, claims 1-4 and 6-71 are pending in the application, with claims 1, 9 and 42 being the independent claims.

Support for the addition of the chemical terms for the nucleotide bases P and K can be found in references listed in the specification at page 18, lines 10-12. These references, which were incorporated by reference at page 41, lines 1-2, are included herewith in an accompanying Information Disclosure Statement. The Abstract of document **AS1** indicates that P represents the nucleotide base 6H,8H-3,4-dihydropyrimido[4,5-c][1,2]oxazin-7-one, and K represents the nucleotide base 2-amino-6-methoxyaminopurine.

Applicants' Agent hereby states that the change made in the sequence listing does not include new matter. Applicants' undersigned agent has amended the specification to direct the entry of this corrected Sequence Listing at the end of the application.

In accordance with 37 C.F.R. § 1.825(b), the paper copy of the Sequence Listing and the computer readable copy of the Sequence Listing submitted herewith are the same.

Conclusion

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment is respectfully requested.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.



Aaron L. Schwarz
Agent for Applicants
Registration No. 48,181

Date: 10/29/01

1100 New York Avenue, N.W.
Suite 600
Washington, D.C. 20005-3934
(202) 371-2600

Version with markings to show changes made

In one embodiment, the probe (and/or primer) may contain nucleotide analogues that are capable of hybridizing to more than one species of the four naturally occurring deoxynucleotides (dC, dG, dT, and dA). 2'-deoxyInosine or 2'-deoxyNebularine which exhibit low, but unequal, hydrogen bonding to [the] all four bases may be employed for such purpose. Alternatively, a "universal nucleotide" may be employed. In this strategy, the base analog does not hybridize significantly to any of the four bases. 3-Nitropyrrole 2'-deoxynucleoside, and 5-nitro-indole are examples of such [a] universal bases (Nichols, R. *et al.*, *Nature* 369:492-493) (1994); Loakes, D. *et al.*, *Nucl. Acids Res.* 22:4039-4043 (1994)). Nucleotides having bases capable of hybridizing to multiple species of nucleotide, as well as "universal nucleoside" may be obtained from Glen Research (Lin *et al.*, *Nucleic Acids Res.* 17:10373-10383 (1989); and [Line] Lin *et al.*, *Nucleic Acids Res.* 20:5149-5152 (1992)). Examples of such universal nucleotide include dP and dK, obtainable from Glen Research. Throughout this specification, dP is a deoxyribonucleotide wherein the nucleotide base P represents 6H,8H-3,4-dihydropyrimido[4,5-c][1,2]oxazin-7-one. Throughout this specification, dK is a deoxyribonucleotide wherein the nucleotide base K represents 2-amino-6-methoxyaminopurine. When used in a sequence, dP is interchangeable with P, and dK is interchangeable with K.

The sequence listing has been replaced with a substitute sequence listing.